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April 19, 2007

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th St., SW
Washington, DC 20554

Re: The Supply of Sensitive Government Communications Needs By Commercial Operators
WT Docket Nos. 96-86, 06-150; PS Docket No. 06-229

Dear Ms. Dortch:

Frontline Wireless LLC's ("Frontline's) Public Safety Deployment Plan ("Plan") and proposed service rules, provide the Commission and the public with a market-based solution that capitalizes on the type of public/private partnerships the United States government has increasingly relied upon to satisfy its most important communications needs. Various government entities, including the U.S. Department of Defense, the Pentagon and several intelligence agencies, have agreements with commercial operators to receive essential communications services, including satellite networks.

This Plan to establish a public/private partnership, in order to benefit from the experience of commercial operators and the innovative technologies they provide, is not a new concept. In fact, there has been a drastic increase over the last two decades in the government's reliance on private companies to provide communications services. In an article discussing this trend, the authors cite to research by a policy analyst in the Office of the Secretary of Defense finding that at the time of "Operation Desert Storm in the early 1990s, commercial satellites provided 20 percent of the Defense Department's capacity requirements," whereas by 2005, private companies satisfied "80 percent of those capacity requirements."[1] As another author has noted, "since the terrorist attacks of Sept. 11, 2001, the U.S. government has become the satellite industry's single largest customer."[2]

The government's continued reliance on private entities for its communications needs was reaffirmed earlier this month when the Pentagon announced a partnership with commercial

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[1] Sam Silverstein & Gregory Twachtman, *Government Use of Commercial Satellites Will Remain For Foreseeable Future,* MOBILE SATELLITE NEWS, Apr. 4, 2005, *available at* 2005 WLNR 5333415 (attached).

[2] Paul Dykewicz, *Commercial Operators Expand Military Offerings*, SPACE NEWS, June 13, 2005, *available at* http://www.space.com/spacenews/archive05/Milsat_061305.html (attached).

satellite operators "to deliver high-speed Internet connections to military units on the move."[3] In a *Wall Street Journal* article reporting on the agreement, Mike Floria, the military's manager for the program, touted the benefits of the public/private partnership by noting that the military gets "to test something for a fraction of what it would cost" if it had been funded by the Air Force itself.[4]

In addition to the clear cost savings, public/private partnerships also allow for more efficient use of communications systems. The U.S. Navy, for example, has utilized the network capacity provided by commercial operators to "boost capacity on short notice and for limited periods," because the " so-called surge capabilities" offered by commercial entities prevent the government from paying for "space that sits unused much of the time just in case a ship happens to need it."[5] *This is exactly the type of arrangement Frontline's Plan envisions,* as the commercial licensee would have secondary access to public safety's spectrum when it is not being used and public safety would have preemptible access to the commercial spectrum in times of emergency.

Frontline's Plan is merely one more example of the many benefits that stem from the creation of public/private partnerships for the delivery of communications services.

Sincerely,

Gerard J. Waldron
Counsel to Frontline Wireless, LLC

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[3] Andy Pasztor, *Pentagon, Private Firms Set Satellite Partnership,* WALL STREET JOURNAL, April 9, 2007 (attached).

[4] *Id.*

[5] *See* Silverstein & Twachtman at 2.

4/4/05 Mobile Satellite News (Pg. Unavail. Online)
2005 WLNR 5333415

Mobile Satellite News

April 4, 2005

Government Use Of **Commercial** **Satellites** Will Remain For Foreseeable Future.

Commercial satellite operators who have looked upon the U.S. government as a consistent customer can rest easy in the knowledge that the increased demand of commercial capacity by the government will remain in the near term.

That demand will remain even as the government, particularly the Defense Department, rolls out new satellite systems to support the future network- centric operations. However, the government will be looking to the commercial satellite industry for technological innovations to be placed into next generation communications satellites that will better meet the needs of the government as a customer of those services.

To put the future demand in perspective, Don Brown, vice president of government sales at G2 Satellite Solutions, a subsidiary of Panamsat, cited a recent U.S. Strategic Command report saying that by 2020, there will be a 19 GHz gap between the capacity the U.S. government operates and its demand. Brown made his comments during a panel discussion held during the SATELLITE 2005 conference and exhibition.

Lawrence Krebs, Satcom systems policy analyst within the Office of the Secretary of Defense added some other figures to lend perspective to the government's use of commercial satellite technology. He noted that back during Operation Desert Storm in the early 1990s, commercial satellites provided 20 percent of the Defense Department's capacity requirements. Today, commercial satellites provide 80 percent of those capacity requirements. Additionally, in 2003 alone, the military spent $270 million on commercial satellite capacity, $115 million on mobile satellite services and $181 on commercial satellite equipment. He too reiterated that future military deployment of satellites would not meet the demands of the military.

"Commercial Satcom is a critical part of government satellite communications," Josh Hartmann, professional staff of the House Armed Services Committee said during the discussion. He noted that the government, even if it had the resources available on its own managed networks to cover the known capacity needs, it still has been unable to accurately account for "surge capacity."

Needs From Commercial

At a separate panel discussion during the conference, Col. Patrick Rayermann, deputy chief of staff for operations and plans for the U.S. Army's Space and Missile Defense Command, said military planners have grown dependent on commercial satellite systems to take the burden off the Pentagon's own facilities, which the government wants to ensure are available for the most critical missions. Part of the partnership between the military and commercial suppliers should involve more information sharing, so contractors can be in the best possible position to respond to the Defense Department's requests, he said.

"We can become better customers," said Rayermann. "We can help you understand us better" by building relationships defined by mutual understanding and respect. There should be a certain level of tension as commercial suppliers press their military customers for information and those users grapple with what information to

share, "but there still can be trust (even) if there is tension," he added. "We have to maintain a continuing dialog."

Efforts to improve the relationship between satellite users in the military and commercial operators are taking place against a backdrop of an unmistakable trend: as the Pentagon's communications needs grow, the department is buying an ever-increasing proportion of the capacity it needs from the private sector. For example, in just the past five years, the Defense Information Systems Agency (DISA), has gone from spending $45 million per year on wideband satellite communications to an estimated $245 million, said Rick Bourdon, program manager in DISA's commercial satellite communications branch.

The military's use of commercial satellite systems extends beyond communications to applications such as remote imagery and weather forecasting, Rayermann added. He also pointed out that the commercial world benefits handsomely from facilities operated by the military, such as the Global Positioning System (GPS), which highlights the often-similar requirements of the government and the private sector, such as where keeping track of equipment that may be scattered across a broad area. "We both want to know where our assets are."

Regardless of the task at hand, the military places a high premium on flexibility--a concept that extends to the way Pentagon users prefer to deal with satellite and other forms of communications links. The Navy, for example, has to ensure that all of its ships have access to satellite links, regardless of their location or course, said Michelle Bailey, program manager in the communications programs office at the U.S. Navy's Space and Naval Warfare Systems Command, adding that she would like the ability to boost capacity on short notice and for limited periods. These so-called surge capabilities would reduce the need for the Pentagon to pay for transponder space that sits unused much of the time just in case a ship happens to need it, she said.

If the goal is to keep the Defense Department as a customer, the commercial satellite needs to be "technically relevant" and operators and manufacturers need to "step up" to meet the technological needs going forward, Hartmann said.

One technological challenge, in particular, that Krebs highlighted was the trend of going from circuit switched networks to Internet Protocol (IP)- based networks. "IP was not designed for wireless transport," Krebs noted. He called upon the commercial satellite industry to address that in the development of its next generation networks going forward. Additionally, he called upon the industry to be sure to keep the government informed as to "where the technology is headed."

Brown also acknowledged the changing nature of government's needs for satellite communications. He noted the increased complexity of the network requirements and need for reconfigurable managed networks among other flexible requirements. "Millions of dollars" ride on meeting the flexibility needs of government users by commercial providers, he said.

Krebs offered another concern in regard to the security of commercial satellite networks. He said that commercial satellite communications should be protected as a national asset on all levels, from physical protections on the ground segment to protecting the networks themselves from cyber attacks. And while he did not highlight specific deficiencies in the existing commercial networks, he said that the government should "encourage" commercial satellite operators to make the appropriate capital expenditures to protect commercial satellite assets.

Paying For It

But encouraging commercial satellite operators to make additional capital expenditures to protect their networks for the benefit of the military and government user could be a challenge since the government does not have a history of awarding long-term contracts.

Hartmann acknowledged that due to budgetary considerations, Congress "is afraid

to commit to long-term contracts" because there is a level of uncertainty in determining the needs of the government from year to year.

However, even with that hesitancy to offer something on a long-term basis, the government does have a history of paying over the long term to the commercial sector to meet its capacity requirements, even if it is not locked into long-term contracts.

Krebs noted that 80 to 85 percent of the contracts for commercial satellite services have a year base plus multi-year options that can be exercised. He added that 95 percent of the time, those options are in fact exercised; so while the government may not obligate funds throughout a long period of time, it does offer long term contracts.

Krebs also suggested that the government should only focus its use of commercial satellite infrastructure on those requirements that it knows and can predict going forward, and rely on government deployed satellites for surges in use as a way to help better plan for the financial side of commercial satellite use by the government.

Bailey offered several suggestions to commercial satellite providers looking to take advantage of the Pentagon's seemingly insatiable appetite for telecommunications capacity. She urged providers to make sure they submit clearly written proposals that dispense with jargon and other unnecessary language, and advised against providing more than a cursory amount of background information about prior experience or other clients. Instead, companies should describe how they can fulfill the terms of a potential contract and "help me believe that you guys can do the job," said Bailey. "Do not waste time telling me what I already know about your company" or can find out from evaluations provided by existing customers.

--Sam Silverstein and Gregory Twachtman

---- INDEX REFERENCES ----

COMPANY: DISA

NEWS SUBJECT: (Infrastructure (1IN78); Government (1GO80))

INDUSTRY: (I.T. (1IT96); Advanced Telecom Technology (1AD41); Satellite (1SA91); Global Positioning Systems (1GL40); I.T. in Telecom (1IT42); Telecom Satellites & Services (1TE46); Electronics (1EL16); Advanced Networking Technology (1AD67); Advanced Digital Technologies (1AD50); Passive Electronic Components (1PA48); Aerospace & Defense (1AE96); Spacecraft & Satellites (1SP37); Defense Satellites (1DE40); Telecom (1TE27); I.T. in Government (1IT22); Defense (1DE43); Aerospace (1AE56); I.T. in Defense (1IT57); New Defense Technologies (1NE38))

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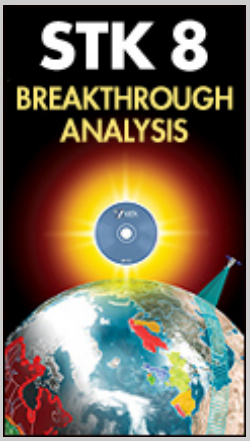

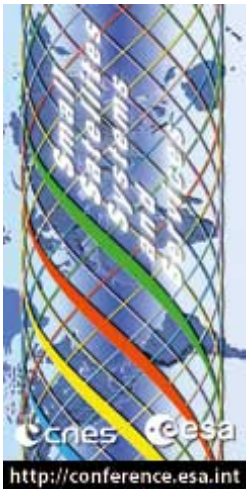

Commercial Operators Expand Military Offerings

By PAUL DYKEWICZ
Space News Correspondent
posted: 13 June 2005
11:36 am ET

The U.S. Department of Defense (DoD) is fast becoming the customer commercial satellite operators covet most, and virtually all the major service providers worldwide are making that business a top priority.

The full-court press taking place among satellite operators to secure additional DoD contracts was evident during the recent Institute for Defense and Government Advancement (IDGA) military satellite conference here, which featured several commercial satellite company representatives touting their capabilities and flexibility to spring into action quickly to meet the needs of government customers.

The services offered by commercial satellite providers also are stretching beyond the provision of in-orbit capacity to include a variety of new initiatives.

Since the terrorist attacks of Sept. 11, 2001, the U.S. government has become the satellite industry's single largest customer and the Defense Department has been the biggest driver behind the new wave of demand, said Don Ritter, vice president of government services at PanAmSat G2 Satellite Solutions. The role of the commercial satellite operators has gone from augmentation to becoming strategic partners with the Department of Defense, he added.

Commercial satellite bandwidth is still a core U.S. government requirement but integrated and end-to-end Internet Protocol (IP) solutions are increasing in demand, Ritter said.

The U.S. government's use of commercial satellite services hit an estimated $500 million a year during 2002 and is expected to reach $1.5 billion a year by 2007, said Robert Turner, director of government services at New Skies Satellites of The Hague, the Netherlands. The demand is growing at a double-digit percentage rate annually, he added.

Roughly 60 percent of the use of commercial satellite services is coming from the Department of Defense, Turner said. The military has the broadest requirements that include services and solutions that are global in scope, he added.

The remaining 40 percent of the U.S. government's use of commercial satellite services comes from a variety of agencies that include the intelligence community and the State Department, Turner explained. The intelligence agencies feature the Central Intelligence Agency, the National Security Agency, National Reconnaissance Office and the Federal Bureau of Investigation.

One of the drivers of the rising military use of commercial satellite services, for example, is Network Centric Warfare, Turner said. Network Centric Warfare is a term used to describe a broad range of communications capabilities that are linked together in a network to serve the information needs of warfighters. That application is one of those that is lifting the demand curve and creating a long-term trend, Turner added.

Civilian agencies that have stepped up their use of commercial satellite services include NASA and the U.S. Department of Commerce.

The Department of Homeland Security also is poised to become a significant customer for commercial satellite operators. The domestically focused agencies typically need service that covers

the full continental United States, Turner said. International services, in contrast, are required by the Coast Guard, Immigration and Naturalization Service and the Border Patrol, he added.

Another significant development is the use of satellite communications to support the growing military use of unmanned aerial vehicles, Turner said. Those unmanned aerial vehicles are becoming a “critical component” of the U.S. military arsenal, he added.

Satellite communications aid unmanned aerial vehicles today in providing command and control of the aircraft when operating beyond the line of sight, as well as in the transportation of sensor data retrieved from the onboard sensor and delivered to the user, Turner said.

A large and reliable supply of bandwidth is needed to support a fleet of unmanned aerial vehicles, Turner said. The uses of such unmanned aerial vehicles include the global fight against terrorism. Their ability to provide reconnaissance, surveillance, target acquisition and to assist with combat missions is most helpful to the military, he added.

Unmanned aerial vehicles also can be instrumental in homeland security by deterring illegal immigration, drug trafficking and terrorist activity, Turner said. Such vehicles also can support Border Patrol officials in the surveillance of the combined 6,000 miles between the United States, Canada and Mexico, he added.

Intelsat also is focused on the business potential of DoD’s network centric warfare needs. The company is touting its responsiveness in offering bandwidth, with coverage and connectivity to aid military operations. Its networks are based on IP and offer the high data rates needed by military users, said Britt Lewis, vice president of marketing and business development.

Commercial satellite operators, such as Intelsat, have been at the forefront of meeting the surge in requirements underlying the overall global war on terrorism, Lewis said. To that end, more than 80 percent of the bandwidth supporting operations Enduring Freedom and Iraqi Freedom, and now playing a role in reconstruction support, have been provided by commercial satellite operators, he added.

Close collaboration exists between Intelsat and other commercial satellite operators with industry partners that include Artel, Arrowhead and Spacelink, all three of which procure satellite capacity for the Defense Department, Lewis said.

Intelsat, Lewis said, relocated five satellites and re-pointed certain steerable Ku-band spot beams to address the surge in bandwidth requirements.

With the use of an iDirect Technologies platform, Intelsat rolled out a global broadband IP communications service that offers multimedia services at extremely high data rates that are well in excess of what would be possible with Digital Subscriber Lines, or DSL, Lewis said. Those services can be delivered to rural and remote areas where forces may deploy. The uses include Internet access, Virtual Private Network/Intranet access, logistics and security monitoring, he added.

“We offer, on a truly global basis, converged, secure IP services, through our global network of 27 satellites, five teleport sites, 48 teleport antennas, four hubs and fiber interconnects with major points of presence around the world,” Lewis said.

Another company trying to ride the rising tide of DoD demand is West Chicago, Ill.-based Infinite Global Infrastructures LLC, a small business that primarily focuses on the design, integration and implementation of large-scale, high-reliability communications systems for high-speed satellite and terrestrial networks, said David R. Beering, its principal and founder. The company offers mobile communications networks for ships, aircraft, spacecraft and land-based vehicles.

One user of the networks provided by Infinite Global Infrastructures is a vessel called Entropy, which is based off the Lake Michigan shoreline east of Chicago. It uses a Ka-band satellite link that operates at 45 megabits per second, Beering said.

Another ship that is supported by Infinite Global Infrastructures will operate in the sea along Midway Island when the vessel’s all-IP communications network is completed in late-2005, Beering said. The ship will feature the most advanced network afloat, he added.

THE WALL STREET JOURNAL. ONLINE

April 9, 2007

Pentagon, Private Firms Set Satellite Partnership

By ANDY PASZTOR
April 9, 2007; Page A9

The Pentagon has formed a partnership with private investors, commercial-satellite operator Intelsat Ltd. and **Cisco Systems** Inc. to deliver high-speed Internet connections to military units on the move.

The demonstration project requires private investors led by a fledgling private-equity fund to shoulder the entire cost of a networking system for directing messages. Slated to be added to an Intelsat satellite already under construction, that portion of the spacecraft's capacity would be reserved for military and intelligence customers.

Private investors are gambling the military will make long-term commitments to support technical breakthroughs and new acquisition procedures. About $80 million is budgeted for the first satellite installation, including government funds for testing and evaluation. But Claire Fairfield, managing director of venture fund Concerto Advisors Inc., said his group is looking to raise up to $200 million to fund four similar projects involving Intelsat or other commercial operators.

Phillip Spector, a senior Intelsat executive, said the military's "strong desire to partner with industry" on space hardware offers "huge efficiencies." Cisco, of San Jose, Calif., is providing software integration, and Concerto is rounding up investors.

"We get to test something for a fraction of what it would cost" if the Air Force funded it, said Mike Florio, the military's manager for the program.

IRIS, or Internet Protocol Routing in Space, is partly championed by critics of the Air Force's traditional satellite-buying plans.

Rick Sanford, Cisco's top executive for the program, sees advantages because the Pentagon is acting like a consumer, and IRIS is "really a business approach, not a government program."

Air Force Lt. Gen. Michael Hamel, whose satellite-buying duties include plans for a more-than-$16 billion communications system that also envisions using lasers to enhance capacity, said the lessons could be "advantageous for some of the work we're doing."

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